

# SCIENCE at the Edge

*Traditionally distinct scientific disciplines are merging to create new opportunities. Share the excitement and challenge through seminars and discussions with nationally recognized pioneers in science at the edge.*

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## Fall Semester 2011

Seminars are on Fridays at 11:30 a.m., with refreshments served at 11:15 a.m.  
1400 Biomedical and Physical Sciences Building (unless noted otherwise)

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- September 2 - Quantitative Biology/Gene Expression in Development and Disease Seminar  
Yingfu Li, Health Science Center, McMaster University  
*Expanding the Function and Utility of Nucleic Acids*
- September 9 - Quantitative Biology/Gene Expression in Development and Disease Seminar  
Haixu Tang, Department of Informatics and Computing, Indiana University  
*Next Generation Software Tools for Next Generation Sequence Analysis*
- September 16 - Interdisciplinary Physics Seminar  
Yuri Gorby, Department of Biological Sciences, University of Southern California  
*Bacterial Nanowires and Extracellular Electron Transfer*
- September 23 - Quantitative Biology/Gene Expression in Development and Disease Seminar  
Shizhong Xu, Department of Botany and Plant Sciences, University of California, Riverside  
*Using Genome-wide Marker Information to Detect Natural Selection*
- September 30 - Quantitative Biology/Gene Expression in Development and Disease Seminar  
Dan Voytas, Department of Genetics, Cell Biology and Development, University of Minnesota  
*Precise Genome Engineering with Sequence-specific Nucleases*
- October 7 – Engineering Seminar  
Arul Jayaraman, Department of Chemical Engineering, Texas A&M University  
*Inter-kingdom Signaling in the GI Tract: There's a Lot of Talking Going On*
- October 14 - Quantitative Biology/Gene Expression in Development & Disease Seminar  
Rob Coalson, Department of Chemistry, University of Pittsburgh  
*Modeling Permeation through Biological Ion Channels: A Physico-Chemical Perspective*
- October 21 - Quantitative Biology/Gene Expression in Development & Disease Seminar  
David Houle, Department of Biological Science, Florida State University  
*Phenomics and the Genotype-phenotype Map*
- October 28 - Interdisciplinary Physics Seminar  
Gianluca Ascolani, Laboratory IMNC, CNRS-UMR8165, Orsay, France  
*Glioma Cells Exchanging Information Via Gap Junctions and Their Migration Process*
- November 4 - Quantitative Biology/Gene Expression in Development & Disease Seminar  
Smadar Ben Tabou de Leon, Department of Biology, California Institute of Technology  
*Information Processing in Developmental Gene Regulatory Networks*
- November 11 - Interdisciplinary Physics Seminar  
Chris Xu, Applied Physics, Cornell University  
*Pushing the Limits of Biological Imaging Using Multiphoton Excitation*
- November 18 – Engineering Seminar  
Justin Hanes, Chemical & Biomolecular Engineering, Johns Hopkins University  
*Drug Delivery to Mucosal Surfaces*
- December 2 - Interdisciplinary Physics Seminar  
Jay Grate, Pacific Northwest National Laboratory  
*Pore Network Microfluidic Habitats and Structures for the Visualization and Study of Microbial Communities and Carbon Sequestration*
- December 9 - Interdisciplinary Physics Seminar  
Jonas Korlach, Pacific Biosciences, California  
*Single-Molecule, Real-Time (SMRT(tm)) Monitoring of Biomolecules: DNA Sequencing and Beyond*
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### Organizers

Ruby Ghosh (ghosh@pa.msu.edu), & Jeffrey Schenker (jeffrey@math.msu.edu),  
Interdisciplinary Physics  
Christina Chan (krischan@egr.msu.edu), Engineering  
C. Titus Brown (ctb@msu.edu), & David Arnosti (arnosti@msu.edu),  
Quantitative Biology/Gene Expression in Development & Disease

